

GP-303575

CONTROL OF A HYDROGEN PURIFYING PRESSURE SWING
ADSORPTION UNIT IN FUEL PROCESSOR MODULE
FOR HYDROGEN GENERATION

ABSTRACT OF THE DISCLOSURE

A PSA unit for purifying hydrogen in a fuel processor system. The PSA unit employs rotary valves that cycle the pressurization of vessels, including an adsorbent, between a high pressure state and a low pressure state. The purified hydrogen is released from the vessels through a purified gas output port when the vessels are in the high pressure state and the impurities are released through an exhaust port when the vessels are in the low pressure state. The PSA unit also employs a mass flow control device and a pressure sensor in the purified gas output port. A controller receives a pressure signal from the pressure sensor, and controls the flow through the mass flow control device and the speed of the rotary valves so that the proper pressure is maintained at the hydrogen output port.